

Review of Case Studies (Uganda, DRC & Kenya)

Session 2.2

Technology Case Studies - Africa

Battery Operated Systems for Community Outreach (BOSCO) Uganda



Initiated in 2006 and started operation in 2007, its registered as a Non for Profit organization under the trusteeship of the Archdiocese of Gulu. Governance - Board of Directors and staff members

BOSCO Uganda is also registered with Uganda Communication Commission as using the 802.11 unlicensed spectrum for its operations to reach communities.

Services at the centers include: Internet, ICT training and services to the community, Entrepreneurship skill trainings, offline content/training material(intranet/wordpress site, Kolibri)

BOSCO Uganda



- Network fully powered by solar energy
- Have installed solar grids providing power to schools and businesses
- Local youth are trained on solar maintenance

Operator License: Uganda: Communal Access License



UGANDA
COMMUNICATIONS
COMMISSION

LICENSE TO PROVIDE COMMUNAL ACCESS SERVICES IN THE REPUBLIC
OF UGANDA

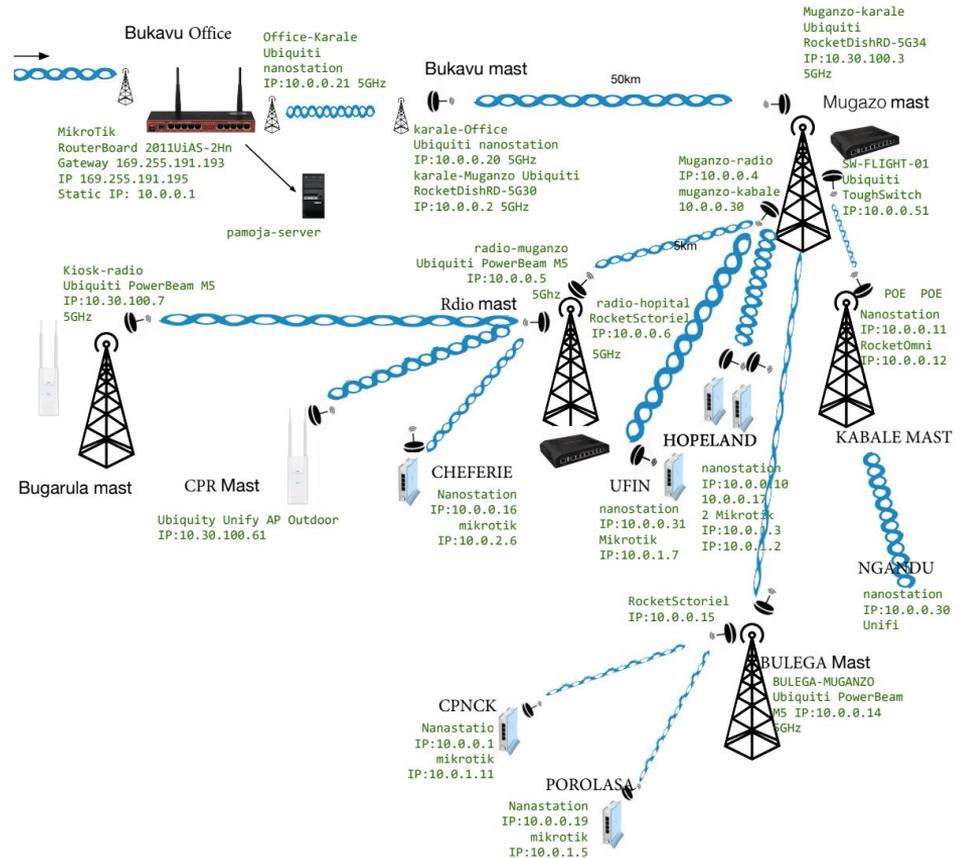
- In 2020, the Uganda Communications Commission introduced
- A holder of communal access license will be authorised to establish, operate and provide communal access to telecommunications services to a particular community.
- This license is typically suitable for community-based, not-for-profit entities that may wish to provide subsidised telecommunications services to the unserved or underserved communities.
- The license shall be for five (5) years renewable under the Uganda Communications Act 2013.
- **Challenge: Pricing USD 3000**

PamojaNET Community Network - DRC

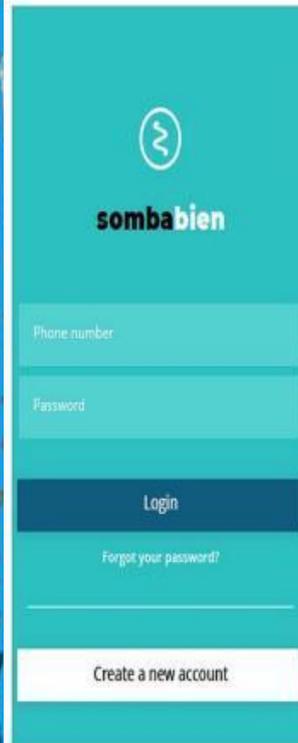


- Located In the Democratic Republic of Congo (DRC), the island of Idjwi in Lake Kivu is remote and houses an isolated and impoverished population.
- The population is around 300,000 people
- Limited economic opportunities result in migration to the mainland cities in the country
- In 2016, La Difference partnered with the island chiefdom through an invitation of the Mwami, the king on Idjwi, to create [Pamoja Net](#), a community-owned network that provides internet access

PamojaNET Community Network - DRC



PamojaNET Community Network - DRC




sombabien

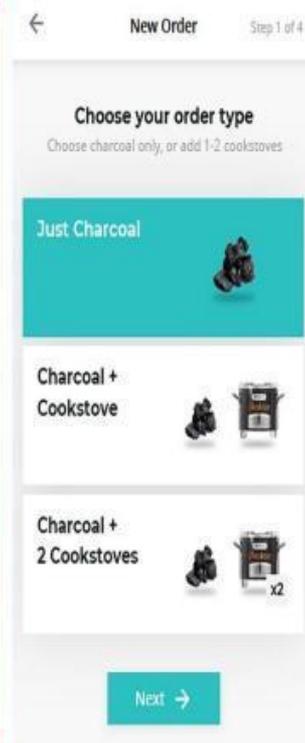
Phone number

Password

Login

[Forgot your password?](#)

[Create a new account](#)



New Order Step 1 of 4

Choose your order type
Choose charcoal only, or add 1-2 cookstoves

Just Charcoal

Charcoal + Cookstove

Charcoal + 2 Cookstoves

Next →



Orders

Your Products (2)

Jikokoa Cookstove 
\$35 / \$60 Paid

Jikokoa Cookstove (2)
Not Paid Yet

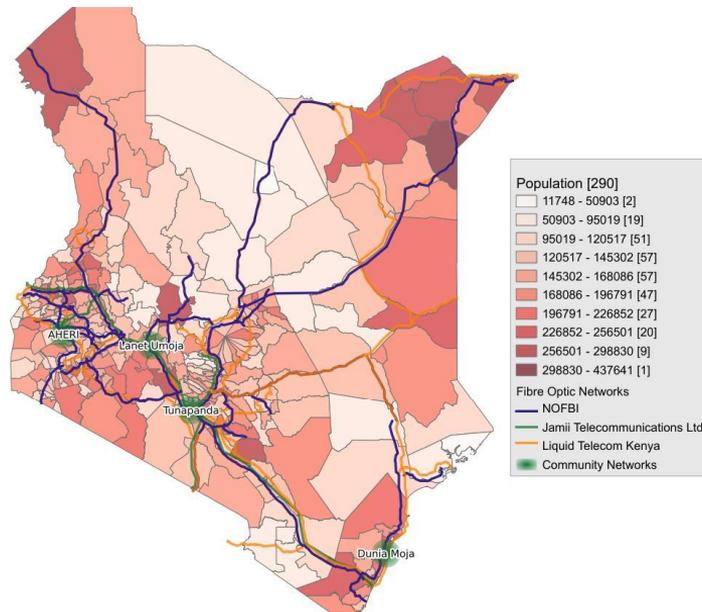
Your Orders (3)

28th MAY 2018

Total	Charcoal	Cookstove
\$20	\$15	\$5

Regulation Case Study - Kenya

Kenya Telecoms Landscape



- Major investments in critical infrastructure, including in both undersea cables and terrestrial fibre optic networks
- The mid-level licensees, consisting of Tier-3 Network Facility Providers (NFP Tier-3) Application Service Providers (ASP) and Content Service Providers (CSP) have also increased in number
- However licensing obligations (business plan review, licensing, gazettment, license terms and conditions, license fee and frequency fees a significant barrier
- As of 2020, the Register of the Unified Licensing Framework shows 53 NFP Tier-3 licensees, with 86% in Nairobi
- 41 of the 47 counties are not served by relatively small-scale NFP Tier-3 licenses

Kenya Telecommunications Market Structure

Market Segments	License Period (Years)	Licence Application	Initial Operating	Annual Operating Fee	Access Fee for Frequency Spectrum	Annual Spectrum Fee
1. NATIONAL NETWORK FACILITIES PROVIDERS						
1. a)	TIER 1 (For deployment of infrastructure nationally)	15 Years	KShs. 5,000	KShs. 15 Million	0.4% of Annual Gross Turnover or KShs. 4 million whichever is higher	Bid/Assessed Price for Specific Frequency Spectrum for Exclusive countrywide_ utilisation 1. Initial Spectrum Fees 2. Annual Spectrum Reservation Fees 3. Annual Spectrum Utilization Fees Based on Transmitters/Bandwidth/h/coverage
1. b)	TIER 2 (For deployment of infrastructure nationally)	15 Years	KShs. 5,000	KShs. 15 Million	0.4% of Annual Gross Turnover or KShs. 800,000 whichever is higher	Bid/Assessed Price for Specific Frequency Spectrum for Exclusive Regional_ utilisation Annual Spectrum Utilization Fees Based on Bandwidth & Coverage Case by case approvals for regional/Site spectrum deployment

TELECOMMUNICATIONS MARKET STRUCTURE UNDER THE UNIFIED LICENSING FRAMEWORK

1. c)	TIER 3 (For deployment of infrastructure within a county boundary)	15 Years	KShs. 5,000	KShs. 200,000	0.4% of Annual Gross Turnover or KShs. 160,000 whichever is higher	Bid/Assessed Price for Specific Frequency Spectrum for Exclusive utilisation within an Administrative County boundaries Case by case approvals for regional/Site spectrum deployment	Annual Spectrum Utilization Fees Based on Bandwidth & Coverage
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4. NON – INFRASTRUCTURE BASED SERVICE PROVIDERS

4. a)	APPLICATIONS SERVICE PROVIDERS (Including MVNOs, Vehicle Tracking, ccTLD,)	15 Years	KShs. 5,000	KShs. 100,000	0.4% of Annual Gross Turnover or KShs. 80,000 whichever is Higher	N/A	N/A
4. b)	CONTENT SERVICE PROVIDERS	15 Years	KShs. 5,000	KShs. 100,000	0.4% of Annual Gross Turnover or KShs. 80,000 whichever is Higher	N/A	N/A

Mapping Community Networks in Kenya



- There are 4 pilot CNs in Kenya, 3 rural and 1 urban
- Networks are aligned with the local sensitivities and needs
- Community members are involved in deployment, operations, content development and training
- Community hosts equipment and provide security and powering for equipment
- Incorporate capacity building components to ensure skills transfer to community members
- Use a gender centred approach that engages grassroots women who use their grassroots mobilization strategies

Stakeholder Engagement



- Tier 1/Tier 2 & Tier 3 Stakeholders
- Sited the high cost of the spectrum from the initial acquisition to the annual operating charges as the barrier to delivering affordable access
- There is a need to revise existing policies differentiating rural and urban policies
- Proposed reducing the cost of spectrum which included the initial acquisition cost and the annual spectrum fees and administrative fees.
- Access to affordable backhaul and spectrum is a major challenge especially for operators in rural areas.
- Reduce the barriers to entry such as license pricing, business requirements, burdensome administration and compliance increasing incentives to having a license.
- Recommended the need for a legal framework for community networks, examples mentioned were cooperatives, an association of cooperatives, or not-for-profit organizations.



Licensing and Shared Spectrum Framework

for

Community Networks

May 2021

2021

Community Networks Service Provider License

- Exclusively for not-for-profit Cooperative Societies, Community-Based Organizations and Non-Governmental Organisations.
- Limited in geographic scope to a sub-county.
- License to comprise both network facilities and application service provider license aspects resulting in a single license for operation.
- Initial and annual fees would be lower than Tier-3 NFP license fees.
- Exempt from USF contributions.
- Application fee of \$10 and annual and operating fee of \$50 with a 10 year license period.



Licensing and Shared Spectrum Framework

for

Community Networks

May 2021

2021

Spectrum Sharing

- Review spectrum fee framework recognising the need for significantly reduced fees for underserved/rural areas.
- Consider a spectrum fee waiver scheme for community networks and/or small network operators.
- Conduct a review of international approaches to the creation of more localised access to IMT spectrum
- Review the Guidelines on the use of Radiofrequency Spectrum by Short Range Devices to amend EIRP limits Wi-Fi PtP and PtMP use.
- Review options for lowering the barrier to use of other license-exempt bands for PtP and PtMP use to include 24GHz and 60GHz.
- Expand the range of frequencies available for license-exempt use, especially in the 5-6 GHz range

Capacity building, review & update of the voice and data services access gaps in Kenya

Draft Status Report for Approval Area & Population Coverage , Solution Options & insight



Potential role of community networks

- Existing community networks in Kenya provide one possible hopeful model for collaboration with USF through participation of institutions interested in ICT connectivity and capacity building

06 April
2021

Kenya: Universal Service Fund



Opening Your World

Draft 3

USF STRATEGIC PLAN 2022 – 2026

April 2022

Page 44 (Section 4.2.1.1) on Infrastructure and Services projects regarding funding the establishment of 100 Community Networks

Key Result Area (KRA)	Strategic Objectives	Key Performance Indicator (KPI)	Baseline	Target
ICT Infrastructure and Services rolled out in telecommunications infrastructure voice and connectivity services, Broadcasting, and Postal services in unserved and underserved communities.				
1. Telecommunication (Voice & Data)	1.1. To ensure quality voice and data coverage, in the remaining 4 % of the unserved and underserved communities in Kenya	% coverage	96 %	100%
	1.2. To enhance the quality of service within the already served areas by the Phase 1 project	% Quality of Service for Phase 1	TBD	TBD
	1.3. To facilitate the provision of sufficient support such as devices and complementary services to promote the use of Voice and data services	% increase on baseline support for devices and airtime	TBD	TBD
	1.4. To ensure that unserved and underserved attain coverage from all operators	% increase on baseline coverage by service providers	TBD	TBD
	1.5. To facilitate the establishment of a 100 community Network in the unserved and the underserved communities	No. of Community Networks established	TBD	TBD
	1.6. To facilitate the adoption of new technologies and innovative solutions in helping address affordability, availability and accessibility of ICT services among the unserved and underserved	No of new technologies and solutions adopted by USF to enhance coverage of the unserved and the underserved	TBD	TBD

